REMARKS

The specification has been amended. FIG. 5 has been amended. Claim 10 has been amended. Claims 1-20 remain in the application.

Claims 1-4 are rejected for obviousness over US Patent 5,835,602 ("Lang") in view of US Patent 5,303,303 ("White"). That rejection is respectfully traversed for the following reasons.

Prima facie, rejection of a claim for obviousness over a combination of references requires that there be some suggestion to make the combination, a reasonable expectation of success, and the inclusion of all elements or steps, and all limitations thereof, in the combination, explicitly or by suggestion. See MPEP 2142 et seq.

Taking claim 1 as representative, an encryption system for transmission of encoded information includes "a frame generator" that accepts information to be transmitted and organizes the information into frames and "a self-synchronous scrambling circuit having an input operatively connected to the output of said frame generator" which scrambles "the frame input in a first predetermined encryption pattern" and provides "an output of encrypted frames". This sequence ensures that "the information to be transmitted is scrambled after it is organized into frames."

In Lang, information is scrambled before it is framed. See Lang's FIG. 1 in this regard. The proposal in the Office Action is that White suggests Lang's frame generator 5 be connected between the packet generator 3 and the self-synchronizing scrambler 7 so that information is scrambled after it is framed. 3-5-7 See the discussion of claims 1-4 on page 3 of the Office Action. The applicant respectfully disagrees. One of Lang's concerns is the potential of a malicious user generating "arbitrarily long run lengths of a transmitted sequence" which pose the risk of system disruption. See Lang at column 1, lines 40-56. Lang

contends that his self-synchronous packet scrambler avoids this risk "by scrambling packet based mappings before insertion into a payload envelope such as a frame, e.g. as used in the SONET system." Lang at column 1, lines 56-59.

Accordingly, Lang teaches away from the very modification proposed in the Office Action, which is framing prior to scrambling. See MPEP 2141.02 at 2100-120. Further, if Lang is correct in his concern about the disruptive effect of arbitrarily long lengths of transmitted sequences, then placing the frame generator before the scrambler would render Lang's packet scrambler unsatisfactory for its intended purpose and would change the principle of operation of Lang's packet scrambler. See MPEP 2143.01 at 2100-124. Accordingly, there is no suggestion to combine the references in order to modify Lang's packet scrambler.

Further, in view of Lang's assertion that a packet scrambler which frames and then scrambles is vulnerable to disruption by a malicious user, there is no reasonable expectation of success of the proposed combination. See MPEP 2143.02. Indeed, Lang suggests that failure is reasonably likely.

Therefore, in view of the lack of suggestion to combine and the lack of a reasonable expectation of success, the applicant respectfully requests that this rejection be withdrawn.

Claim 5 is rejected for obviousness over Lang in view of White and further in view of Adams (US Patent 5,444,782); claims 6, 7, 9, 10, and 12 are rejected over Lang in view of White, and further in view of Kimura (US Patent No. 5,825,888), and Voyer (US Patent 3,927,267); claims 8 and 11 are rejected over Lang in view of White and further in view of Kimura, Voyer, and Kim (US Patent 5,442,703). Those rejections are traversed for the reasons given above with

respect to the lack of suggestion to combine Lang and White, and the lack of reasonable expectation of success of the combination.

Claims 13-18 are rejected for obviousness over Lang in view of White, Voyer, et al. Claim 13, which is representative, is directed to a method for encrypting transmissions that includes the act of "organizing the information into frames including time multiplexed sections of information and sections of overhead", the act of "self-synchronously scrambling the frames in a first predetermined encryption pattern", and then the act of "transmitting the scrambled frames". For reasons already given above, Lang teaches away from framing before scrambling. Further, Lang scrambles and then frames in order to avoid transmitting frames of scrambled information. "These long runs of ones or zeroes disrupt the receive clock circuit and cause the transmission link to malfunction." Lang at column 1, lines 45-47. Therefore, Lang also teaches away from the act of "transmitting the scrambled frames". Accordingly, there is no suggestion to make the proposed combination. Further, since Lang expressly states that framing before scrambling poses the risk of disruption during transmission, there is no reasonable expectation of success. The applicant therefore respectfully requests withdrawal of these rejections.

Claims 19 and 20 are rejected for obviousness over Lang in view of White et al. Claim 19, which is representative, is directed to a sabotage prevention system that includes a means for "assembling the information into frames" and a means for "self-synchronously and continuously scrambling the frames from said assembly means, subsequent to the assembly of said frames," which is exactly the opposite of Lang's packet scrambler which has a self-synchronous scrambler for scrambling information to be transmitted followed by a frame generator. In Lang, the information is scrambled before "the assembly of said frames" for reasons that teach away from scrambling "subsequent to the

assembly of said frames". These reasons have been fully explained above. Accordingly, the applicant respectfully requests withdrawal of these rejections.

In view of the remarks made in this paper, it is submitted that the claims in this application are patentably distinct from the references of record, early notice of which is earnestly solicited.

Respectfully submitted,

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